

Work Order ID 145211

May 04, 2016 1:58:39 PM

145211

Page 1

Item ID: D2939-1UP Accept ***N900040100*** Setup Start ***NS1***
 Revision ID: Stop ***NS2***
 Item Name: 206 Saddle Left Side-Unpainted
 Start Date: 5/9/2016 Start Qty: 5.00 ***5*** Cust Item ID:
 Required Date: 5/24/2016 Req'd Qty: 5.00 ***5*** Customer:
 Reference:

Approvals: Process Plan: Stt Date: 20160503 Tooling: _____ Date: _____ Run Start ***NR1***
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D2939	Rev C								

100

0.00

100

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

Program part number and batch number.1-Inspect part number and batch number are programmed correctly.2-Machine Step No 1 of Folio and visually inspect as per dwg D2939 & attached Dimension Sheet 3-Machine Step No 2 of Folio and visually inspect as per

5

16-05-16

110

0.00

110

CONVENTIONAL MILLING MACHINE

Mill Conv

Memo

0.00

Conventional Milling Machine

Machine Keyway and inspect per attached dimension sheet

5

16-05-16

120

0.00

120

QC1- Inspection performed by CMM

QC

Memo

0.00

Quality Control

QC 2

5

16-05-16

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

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Page 2

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Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC8- Inspect parts - second check	0.00							
130						5			16-5-17
QC	Memo	0.00							
Quality Control									
140	Chemical Conversion Coat per QSI005 4.1	0.00							
140						5			16-5-20
HandFinish	Memo	0.00							
Hand Finishing									
150	QC2- Inspect Part Finish	0.00							
150						5			DAS 38 9-88
QC	QC7 Memo	0.00							
Quality Control	8								MAY 24 2016

PH→

DQA: _____ Date: _____

**WORK ORDER NON-CONFORMANCE / UPDATE**

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval	
Description Work Order Deviation		Disposition		5166st2r Completed By	
chng 6 QC 7 exportu				Lead hand / Supervisor Approval Verification	
				QC / QA Coordinator Approval	
				OTHER :	

Root Cause			FAULT CATEGORY		
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐
Past Expiry Date ☐	Manufacturing Process ☐				
Misidentified ☐	Past Due ☐				

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160

Identify as per dwg & Stock Location: *5/105*

0.00

160

Packaging

Memo

0.00

Packaging

5 MAY 21 2016*8*

170

QC21- Final Inspection - Work Order Release

0.00

170

QC

Memo

0.00

Quality Control

1615/25
MCS MAY 25 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
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OTHER : ☐																									

Picklist Print

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Page 1

Work Order ID: 145211

145211

Parent Item: D2939-1UP

D2939-1UP

Parent Item Name: 206 Saddle Left Side-Unpainted

Start Date: 5/9/2016

Required Date: 5/24/2016

Start Qty: 5.00

Required Qty: 5.00

Comments:

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-001		Manufactured	No			100	Each	59.0000	1	5			

D6101-001

Saddle Billet

Location

Loc Qty

Loc Code

MAT042

59

132708

1

137755

1

141200

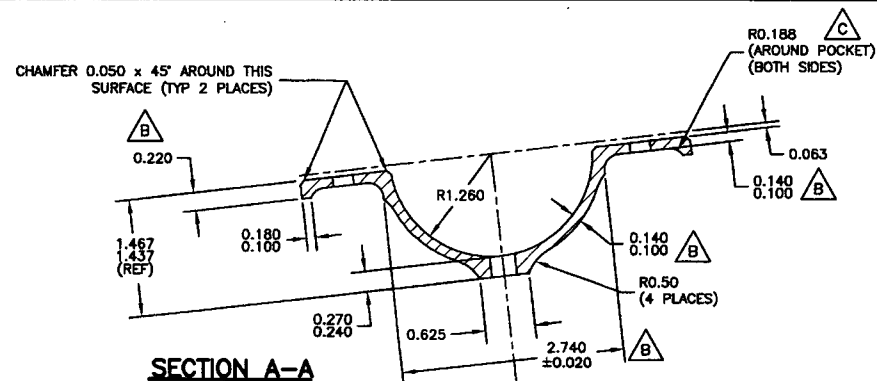
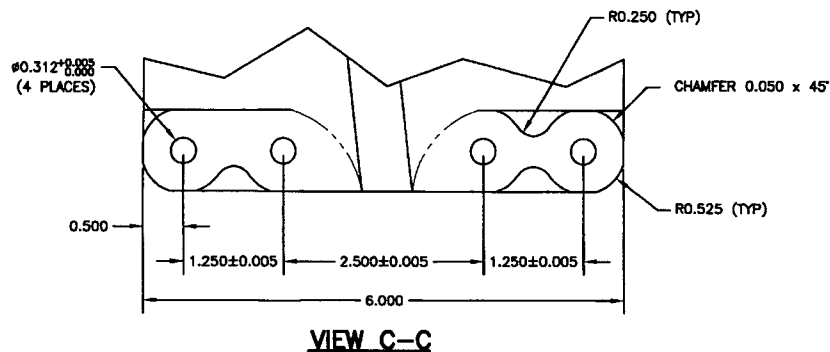
37

143463

20

3
2

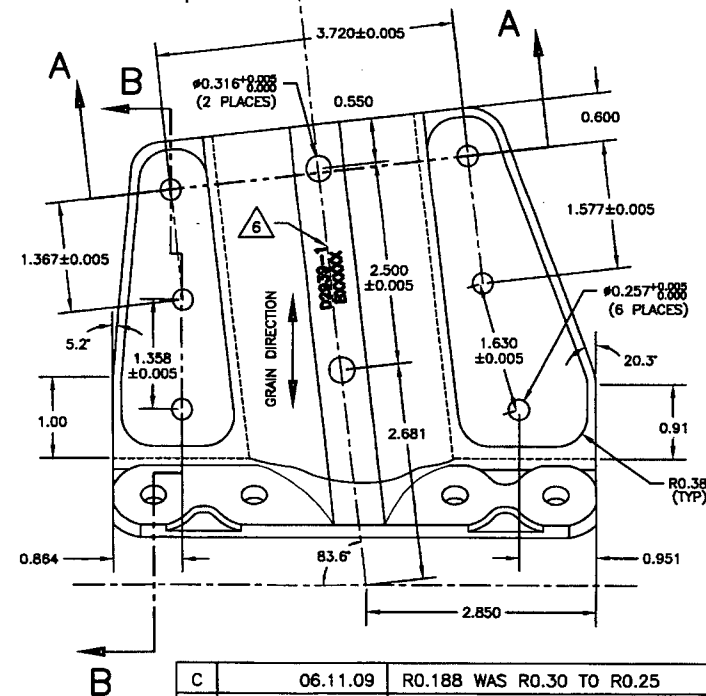
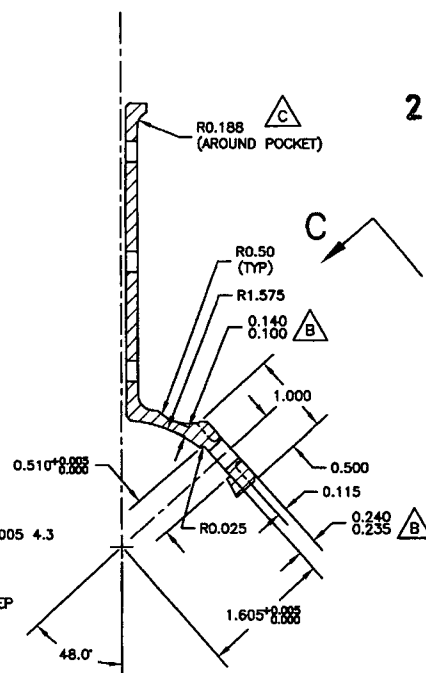
R16-05-15



D2939-1 LH SADDLE (SHOWN)
D2939-2 RH SADDLE (OPPOSITE)

NOTES:

- 1) MATERIAL: ALUMINUM 7075-T7351 (QQ-A-250/12)
(MAKE FROM D6101-001 SADDLE BILLET, 7075)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT GLOSS WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- 3) BREAK ALL SHARP EDGES 0.010 TO 0.020
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE INCHES
- 6) ENGRAVE PART AND BATCH NUMBER IN THIS AREA 0.010 TO 0.015 DEEP



20160503

5H
145211

C	06.11.09	R0.188 WAS R0.30 TO R0.25
B	00.05.29	CHANGED DEOMETRY AND MATERIAL
A	99.11.12	NEW ISSUE
DESIGN	CB	DART DART AEROSPACE USA, INC. BELLEVUE, WA
CHECKED	PH	DRAWING NO. D2939
DATE	06.11.09	TITLE SADDLE INSIDE
		REV. C SHEET 1 OF 1 SCALE

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DATE 06.11.09

TITLE SADDLE INSIDE

REV. C SHEET 1 OF 1 SCALE

01.02.12

DART AEROSPACE LTD	Work Order:	145 211
Description: 206 Saddle, Inboard, Left side	Part Number:	D2939-1
Inspection Dwg: D2939 Rev. C		Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2939 Rev. C and record below:

				Recorded Actual Dimensions					
Dim	Min	Max	Go/No Go Gauge	1	2	3	4	By	Date
A	0.100	0.140		.126	.126	.127	.125		
B	0.100	0.140		.126	.125	.126	.125		
C	0.100	0.140		.115	.111	.113	.116		
D	0.210	0.230		.220	.220	.220	.220		
E	1.245	1.255		1.250	1.250	1.250	1.250		
F	1.245	1.255		1.250	1.250	1.250	1.250		
G	2.495	2.505		2.500	2.500	2.500	2.500		
H	0.510	0.515		.510	.510	.510	.510		
I	1.572	1.582		1.577	1.577	1.577	1.577		
J	2.495	2.505		2.500	2.500	2.500	2.500		
K	0.257	0.262		.258	.258	.258	.258		
L	0.312	0.317		.313	.313	.313	.313		
M	0.235	0.240		.236	.235	.235	.235		
N	0.100	0.140		.120	.120	.120	.120		
O	0.540	0.560	.392	.544	.549	.550	.5485		
P	0.490	0.510	.3435	.5005	.5005	.500	.500		
Q	3.715	3.725		3.720	3.720	3.720	3.720		
R	2.720	2.760		2.740	2.740	2.740	2.740		
S	0.240	0.270		.250	.249	.250	.250		
T	0.100	0.180		.135	.135	.135	.135		
U	1.625	1.635		1.630	1.630	1.630	1.630		
V	1.362	1.372		1.367	1.367	1.367	1.367		
W	0.316	0.321		.316	.316	.316	.316		
X	1.250	1.270		1.260	1.260	1.260	1.260		
Y	1.565	1.585	DT8695 A/B	1.575	1.575	1.575	1.575		
Z	0.178	0.198		.188	.188	.188	.188		
AA									
AB									
AC									
AD									
AE									
AF									
AG									
AH									
Accept/Reject									

Measured by:	P16-05-16
Date:	

Audited by:	J
Date:	16-5-17

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.12.12	Reformat; Added Dim. X-Y, DT8683, DT8686, DT8690 & DT8695 A/B	KJ/RF	
C	07.03.21	Revised per drawing revision C	KJ/JLM	

DART AEROSPACE LTD	Work Order: 145211
Description: 206 Saddle, Inboard, Left side	Part Number: D2939-1
Inspection Dwg: D2939 Rev. C	Page 1 of 1

Inspect dimensions highlighted on inspection sheet drawing D2939 Rev. C and record below:

				Recorded Actual Dimensions				By	Date
Dim	Min	Max	Go/No Go Gauge	1	2	3	4		
A	0.100	0.140		.126					
B	0.100	0.140		.125					
C	0.100	0.140		.117					
D	0.210	0.230		.220					
E	1.245	1.255	+	1.250					
F	1.245	1.255		1.250					
G	2.495	2.505		2.500					
H	0.510	0.515		.510					
I	1.572	1.582		1.577					
J	2.495	2.505		2.500					
K	0.257	0.262		.258					
L	0.312	0.317		.313					
M	0.235	0.240		.235					
N	0.100	0.140		.120					
O	0.540	0.560	.392	.5475					
P	0.490	0.510	.3435	.501					
Q	3.715	3.725		2.720					
R	2.720	2.760		2.740					
S	0.240	0.270		.250					
T	0.100	0.180		.135					
U	1.625	1.635		1.630					
V	1.362	1.372		1.367					
W	0.316	0.321		.316					
X	1.250	1.270		1.260					
Y	1.565	1.585	DT8695 A/B	1.575					
Z	0.178	0.198		.188					
AA									
AB									
AC									
AD									
AE									
AF									
AG									
AH									
Accept/Reject									

Measured by:	PL - 05-16
Date:	

Audited by:	JL
Date:	16-5-17

Rev	Date	Change	Revised by	Approved
A		New Issue	RF	
B	02.12.12	Reformat; Added Dim. X-Y, DT8683, DT8686, DT8690 & DT8695 A/B	KJ/RF	
C	07.03.21	Revised per drawing revision C	KJ/JLM	